

[Name of Document] ABSTRACT

[Abstract]

[Problem to Be Solved] To provide: a plasma etching apparatus, which can
equalize the generated plasma density with respect to a surface of a substrate and a self-
5 bias potential without rotating the magnetic field applying means while maintaining a
pressure distribution on the substrate uniform and can perform uniform etching without a
charge-up damage to a substrate; and a sputter apparatus, which can perform uniform
sputtering on a substrate and does not generate a stress.

[Solution Means] A plasma processing apparatus according to the present invention
10 comprises a first electrode 102 on which a substrate 101 subjected to a plasma process is
placed and magnetic field applying means 103 for applying a magnetic field to a surface
of the substrate to which the plasma process is applied, this plasma processing apparatus
being characterized in that: an auxiliary electrode 104 is provided on an outer periphery of
the first electrode 102 to excite plasma by the auxiliary electrode 104 so as to cause
15 electrons in the plasma to drift from a front surface 106 to a back surface 105 of the
auxiliary electrode and from the back surface 105 to the front surface 106 of the auxiliary
electrode.

[Selected Drawing] FIG 1